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WOLCOTT GIBBS (1822–1908)

Fellow in Class I, Section 3, 1849.

A pathfinder in American chemistry, a fellow of this Academy from 1849 until the end of his life, and one of the founders of the National Academy of Sciences, Wolcott Gibbs was an important contributor to the scientific development of this Country. He was born on February 21, 1822, and lived for over 86 years. At the time of his death on December 9th, 1908, he had been for a long time almost the only survivor among our chemical pioneers, and for over a decade he had headed in academic seniority the list of the Faculties of Harvard University.

Wolcott Gibbs's childhood was spent partly in Boston and partly in New York, where he graduated from Columbia College at the age of 19 in 1841. His first scientific publication had already appeared while he was in college, and afterwards he became Robert Hare's assistant in Philadelphia. In 1848, he was made assistant professor at the College of Physicians and Surgeons in New York, and in 1849 full professor of chemistry and physics in the newly founded Free Academy, later the College of the City of New York. Here he remained for 14 years. His Unitarian faith having excluded him from a proposed professorship in Columbia University, he was called in 1863 as Rumford professor to Harvard University, where he had charge of the chemical laboratory of the Lawrence Scientific School, and gave lectures on light and heat. Here, largely devoting himself to his own researches because of the special circumstances involved in the separation of his laboratory from the field of undergraduate work, he served until 1887, when he was made professor emeritus, and retired to the quiet life in his garden on Gibbs Avenue at Newport, R. I., and his private laboratory not far away.

It is impossible here to present a detailed survey of the greatly varied fields in which his work lay, but a brief sketch will give some idea of the activity of his scientific undertakings and imagination. His first important research concerned the complex ammonia-cobalt compounds, one of the most interesting series among inorganic substances. This masterly work, conducted with the collaboration of F. A. Genth, shed much light upon the puzzling nature of complex compounds in general, and laid the foundation for one of the most elaborate of modern chemical theories. The following years (1860–4) saw him employed upon a careful study of the platinum metals, upon which he was engaged when he accepted the call to Cambridge in 1863. Shortly afterward (1865) he published for the first time a description of his use of the voltaic current for depositing copper and nickel in such a manner that the deposited metals could be directly weighed — thus providing a simple and exact quantitative method for the analysis of substances containing these metals. His sand-filtering device of 1867 may be said to have been a forerunner of the present admirable apparatus perfected by Gooch and Munroe.

Not long after coming to Harvard, Gibbs turned his attention to the precise use of the spectrometer in chemical investigation, and this work was continued in 1869. In succeeding years he attacked the complex inorganic acids, composed of various combinations of tungstic, molybdic, phosphoric, arsenic, antimonic and vanadic acids.

From inorganic chemistry he later turned for a short time to a very different subject, undertaking with H. A. Hare and E. T. Reichert, a systematic study of the action of definitely related chemical compounds upon animals. This research, which appeared in 1889 to 1894, together with occasional previous papers upon organic chemistry, afforded evidence of the breadth of his interest.

Although Wolcott Gibbs was essentially an experimentalist, he was one of the first of American chemists to appreciate the importance of thermodynamics. His influence was the prime factor in having caused the award of the Rumford medal to J. Willard Gibbs as early as 1880, long before the world at large appreciated the fundamental character of the work of the Yale physicist.

His contributions to Science were recognized in America by his election to the presidencies of the National Academy of Arts and Sciences and of the American Association for the Advancement of Science; and abroad he was honored by honorary membership in the German Chemical Society and corresponding membership in the Royal Prussian Academy. His enthusiastic spirit, his tireless energy, his generous recognition of everything good, and his warm human friendship endeared him to all who knew him. The Wolcott Gibbs Memorial Laboratory of Harvard University, one of the most important monuments ever erected in memory of a chemist, will serve posterity as a lasting reminder of his many-sided eminence.

THEODORE W. RICHARDS.